Simulation Study: Hyperparameter Tuning with DoubleML Package

Tuning Grids

Classifier/ Regressor

Learner
-lasso
-random forest
-boosting

Data-Sets
-DGP-ID
-ACIC) Data Challenge
- binary treatment
- High/low dim

Tuning Strategies
-on fold
-on entire sample

DoubleML

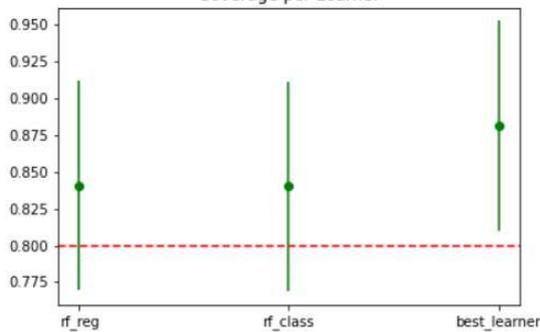Hummer HPC Cluster Uni Hamburg
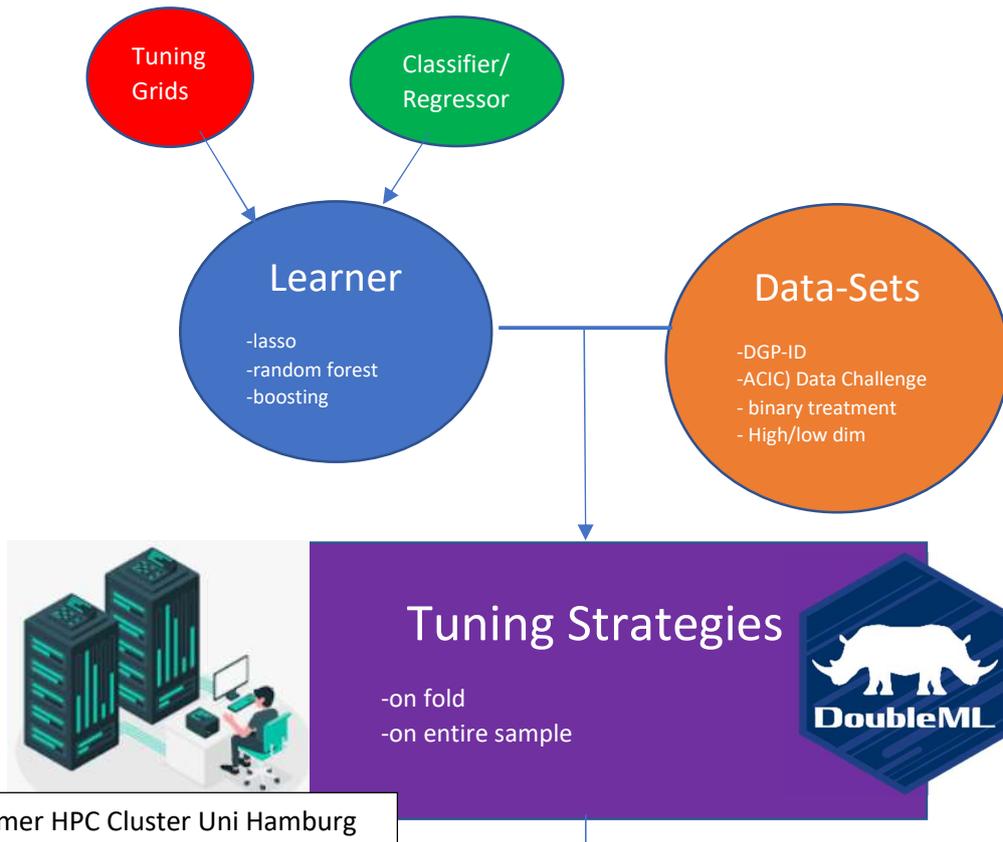
Results

Coefficient	Confidence interval	True ATE	Date set ID	ml_g_tune	ml_m_tune	msr_type	Learner
0.84	0.7-0.9	0.8	High42	1.5	0.4	Acc/mse	lasso

Evaluation

Best learner

Plots

high42
Coverage per Learner

Boxplot grouped by id
Bias
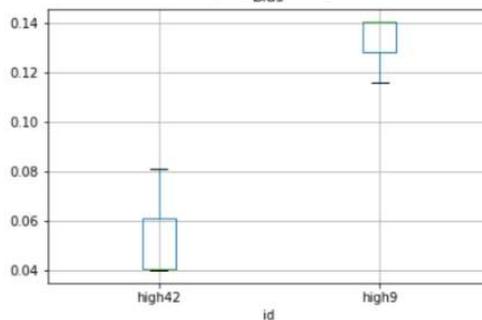
id	bias	squared error	coverage
high42	0.054105	0.001640	1.000000
high9	0.132542	0.019832	0.333333